Cover by Stuart Judd, Jr.

Vital Issues

"A DISCUSSION GUIDE FOR BETTER INFORMED AMERICANS"

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AMERICA'S MANPOWER RESOURCES -

ARE WE MAKING THE MOST OF OURSELVES?

In democracy, nothing is more important than men, women, and children. That's our belief. That's what our Declaration of Independence, Constitution, and Bill of Rights stand for.

Nothing counts more than making the best of ourselves—for our own sakes as individuals, and for the benefit of all of us. Our happiness, our well-being, our liberty and security, depend on ourselves. The sum of the training, skills, and abilities of us all adds up to America's manpower total. That's what makes us what we are; that's our greatest resource.

So, the thing is to see that our human resources are given the best chance to develop. Thomas Jefferson thought that each citizen should have available the highest level of education for which he was qualified. Our belief in "educational opportunity for all" accounts for the American public school system to help prepare young people for life and for work.

Nevertheless, there is a good deal of evidence that, in the training and use of our human resources, there's room for improvement. In this technological age, we're still the furthest advanced nation. But our technological development—so directly responsible for our high standard of living and our security—depends on having enough skilled scientists and engineers, and enough trained technicians, to keep it progressing. We're waking up to the fact that here's one place where we're running very short. We're running short elsewhere, too—short on teachers, for example. The importance of having plenty of good teachers is clear. It's not just because they teach but because part of their job is to build character so that young Americans can make the best of life in general. They help prepare us in the fundamentals of good citizenship on which the quality of our government depends. Inspiring teachers stimulate able students to seek further training to increase their chances of making the most of themselves.

Are we shortchanging ourselves in the preparation and use of our human resources in general? What's the effect on our economy of the fact that it is tougher for certain citizens, because of color, to get training to develop their best abilities? What's the total result of the reluctance to hire older workers? How about drop-outs of young people in school? Because two-fifths yearly leave high school before graduation, isn't there a tremendous loss of potential manpower?

We should look into these things.

They're important for each of us.

We ourselves are the vital issue.

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HOW GOOD IS THE SELF-STARTER?

Becoming a working part of the nation's manpower is a bit like getting a car going in cold weather. The engine needs to warm up.

For a great number of young people, choosing one's work is a haphazard performance. Many take the first job offered. Rather than as the result of painstaking search, very likely the opportunity is heard of casually through a relative or friend. Usually, because that's more convenient, it's something near home. The idea of looking farther afield, or hunting up better opportunities elsewhere, doesn't dawn very quickly. Instead, there's considerable floundering around—trying various things. Meanwhile a little valuable know-how is picked up, along with a better notion of the market for jobs and what's needed to get good ones.

If the young job hunter hasn't graduated from high school, he's almost sure to find himself under a handicap. Employers are coming to regard a high school diploma as standard equipment—proof that the applicant has acquired a certain amount of necessary knowledge and has successfully seen one task through. At a time when, as a nation, we're short on manpower, that may mean some good material is passed by—since many young people with intelligence and other desirable qualities never finish school.

WHAT DOES GETTING READY CONSIST OF AND WHAT ARE THE JOBS TO BE FILLED?

Our system of free education for all (education paid for by the citizenry through taxes) extends through high school. The program is in the hands of all of us. It is as good as we make it—no better, no worse. There's plenty of criticism of what goes on in school—not a bad thing if we know what we're talking about. These are among the comments heard. Several contradict one another or get in one another's way.

1. The typical high school gears its program to the average student. As a result, bright students are neglected.* This means they don't get a real chance to develop. Some of the best get bored and drop out—a serious loss of talent.
2. Not enough is done to work out ways of training for the below-average student, who simply endures school because the law won't let him leave till sixteen.
3. Gifted students often find the schools they are in do not offer the type of training they need for professional study at the university level.†
4. There's not enough vocational training. Since the majority of high school students doesn't go to college, every student should learn some skill so as to be ready to make a living.‡ There should be more business training, too.§
5. The three R's aren't thoroughly taught. Too many students don't learn to understand what they're reading. Too many can't explain what they mean—either through talking or writing. Too many can't spell. Too many haven't really learned even the fundamentals of math—can't add or subtract.
6. Not enough able high school students are encouraged to take science or higher mathematics.●
7. The program offered in high school should be broad and general—with history to acquaint young people with man's past and to furnish a yardstick for the present, with courses in music and art, with good reading to let young people know about man's aspirations.
8. Religion should be taught in public schools.
9. Religion shouldn't be taught in public schools.
10. There ought to be more citizenship training. A key purpose of secondary education in a democracy is to prepare each individual to be a good citizen.
11. There ought to be more emphasis on guidance, both for choice of work and for problems faced in life. There should be more courses acquainting young people with opportunities ahead.

What about each point? What, if anything, is needed? How achieve these needs?

What we want, and what an awakened public interest is striving to get at the free level, is the best possible education for all to help prepare for life and for work. It's traditional with American parents to hope that their children will do better than themselves—and it's good to see how often, in our U.S.A., this belief works out.

As for jobs waiting to be filled, they scale all the way from the unskilled laborer's to Albert Einstein's. If we consider the general job-holding situation during or at the end of high school, here is how it stacks up. A semi-skilled worker—and for our work force of over sixty-five million, it's less and less likely for any job to require no skill at all—picks up what he has to know from his foreman and by watching those around him.

Skilled Labor

There are roughly about eight to nine million in the skilled labor force. Included are electricians, tool and die makers, machinists, and a lot of others. Typically a good machinist can use various machines, and hand tools also, to turn metal into objects our industrial civilization needs—parts of a car, of a watch, a plane. He has to be able to follow written specifications and blue-prints. He needs to be able to work out problems for himself.

At least three out of every five skilled workers and technicians get that way through informal training. Starting as beginners, many grow more and more skilled as they move from one work assignment to another or shift from job to job. The climb up the ladder depends on such things as performance, the desire and ability to make the most of training opportunities, and seniority (how long you've worked with the same outfit).

Formal training comes in various ways. It may be offered you. You may make your own opportunity to get it. Recently there's been a noticeable increase of formal training programs for promising workers by big industrial concerns. These are sometimes of the night-school type, with classes designed to improve the general skills of the work force. You sign up if you're interested. Sometimes they're intensive courses to develop specialized, selected groups of workers.

Unions have traditionally taken great interest in the education and training of their memberships. In cooperation with employers, or on their own hook, they have set up trade schools and run training programs. The apprenticeship system is largely union-made. It operates mostly in the construction trades. Sometimes it just means that those who ask for it will be given a chance to learn a trade. More usually, these days, apprenticeship consists of a formal training program. Uncle Sam recognized that fact some twenty years ago by setting up the Bureau of Apprenticeship. Most apprentices are in programs registered with the Bureau. It encourages the formation of joint employer-employee committees to administer programs. The Bureau and the committees are interested in establishing standards: (1) what shall training requirements be? (2) at what age shall apprenticeship begin? (3) to become an apprentice, what aptitudes should be asked for; what educational backgrounds? [the three R's are pretty much of a must, and most formal programs include applied mathematics and some science training], (4) apprenticeship means learning on the job—so, what shall the hours of work be; what the pay? (5) who shall be selected for apprenticeship and how many? [It's an old complaint that first claim goes to sons and relations of union members]. Some or all of these matters customarily form part of the agreements concerning employment drawn up between unionized labor and management. Apprentices generally receive better than half the standard pay of skilled workmen. Depending on the industry, apprenticeships run from two to five or more years—

**Dr. Hilton C. Buley, Chairman of a Committee on the Gifted and Bright appointed by the Commissioners of Education of eight states, has said: "You just can't take it for granted that a gifted child will reach his full potential without special attention. We have to make better utilization of the brains of . . . gifted children."*

†53% of the nation's high schools do not offer courses in physics. Half do not offer courses in chemistry.

‡In high school, the tendency is to confine vocational programs to the last two years. Most such training is given in regular high schools. Vocational high schools make up only a small percent of our total public school system. Such courses are to teach skills in trades, industry, home economics, and agriculture. Nearly half our high schools offer "vo-ag" courses. They make a valuable contribution, but only a relatively small proportion of our graduates go into farming. For years, more children have been born on farms than could be absorbed into agriculture.

§Over half of all high school students take commercial courses: typing, shorthand, accounting, bookkeeping, office procedure, etc.

●Within the last 50 years the proportion of high school students studying algebra has dropped from fifty percent to twenty percent, physics from twenty percent to four percent. But a far larger proportion of students today attend high school.

two for construction iron workers; five for certain types of electricians.

Even though about half those entering registered apprenticeship programs get out before finishing, they've made a start at learning an occupation, rather than just catching the hang of a particular job. They're that much better off to meet the challenge of new problems. The traditions of apprenticeship tend to create in the trainee a sense of responsibility and pride in his work.

A chance to begin learning a trade is open to every qualified young man (qualifications include a good high school background) faced with the obligation and duty of military service. Many aren't aware of these opportunities for acquiring skills which, when young soldiers become civilians again, can give them a boost up the job and salary ladder. Around half of those entering the services get some type of technical training. Of these, around half are given the advantage of extended school and on-the-job instruction in such varied fields as aircraft maintenance engineering, foreign languages, photography, and jet mechanics. The difficulty is that, as a general thing, the services have only two years or less of a man's time to work with. And the main idea is to make good soldiers for the nation's defense.

Then there's the United States Armed Forces Institute—providing through classroom and correspondence courses the largest adult education program in the world. Through the Institute, men in uniform can work for high school and college credits—though again, because of limited time, far fewer complete courses than begin them.

The G.I. Bills of World War IIΔ and Korea gave many service men, who for financial reasons would otherwise have been left out, the chance to continue their education right through graduate school if they had the ability.

This brief survey shows there's not much rhyme or reason in the way we train for skills. Is that for the best and in closest accord with our belief in the individual's right to choose his occupation, or is there room for improvement?

The means we've looked at are for free. But education costs money, and beyond high school, unless training takes the forms we've considered, the chap who wants further education has to hunt up ways to pay.

Technicians

Along with an increased demand for skilled labor, there's been an enormous rise in the call for technicians. In our total manpower, there are about four hundred thousand of these. Technicians include engineering aides, draftsmen, laboratory assistants—besides many other sorts. Their jobs usually bring them into close contact with professional personnel—doctors, scientists, engineers, and others—who can be seriously hampered in their work if there aren't enough technicians to help. Though, like skilled labor, future technicians may develop their knacks through work experience and informal training, formal post-high school courses are more and more heavily relied on. Depending on the degree of expertness involved, such programs may be carried on in technical institutes during one, two, three, four or more years, or in two-year junior or regular four-year colleges. Correspondence schools also offer training. Technical schools are expensive to run, and tuition often comes high.

The Professions

For the professions themselves, the costs are highest of all, and the preparation longest. That's one reason why the shortage here is greatest and most acute. Our country's economic strength, its social, moral, and spiritual well-being, depend to a critical degree on the small group of highly trained men and women who work in scientific and professional fields. We look to them for solutions of the still unsolved riddles of how to master diseases which have not yet yielded to man's medical skill. To them we turn for the answers—ranging from how to conquer space to how to live in peace on earth. Among our needs, scientists and engineers are at present in dangerously short supply. Because of this lack, the armed forces have had to cut down on certain research and development work. In private enterprise, shortages are critical in the petroleum, metal, food, paper, aircraft and electrical industries. Three to four times as many specialists in peacetime development of the atom will probably be needed each year than are presently being trained.

It's also hard to get enough good executives—both in business and government—for all that needs to be done in managing our expanding economy.

The inadequate supply of highly educated people in various fields is hard to fill for a number of reasons. Top training takes time. Next, a lot of America's potentially best talent doesn't get the chance to get trained. We've looked at the drop-outs in school. In college there's a sizable drop-out rate too—around forty to forty-five percent—much for financial reasons. Particularly during freshman year and especially in science and engineering, drop-outs occur because of inadequate preparation. Better science programs in secondary school and better teaching would help. But good science teachers are hard to keep—they get paid more elsewhere.

This all adds up to serious waste.

How about the form and quality of college and graduate school training? Is an adequate job being done? One argument concerns itself mostly with the undergraduate level. Influenced by this technological age, specialization tends to begin early in college. The existing shortages put the pressure on. When undergraduates see senior engineering and science majors being offered jobs at high starting salaries, they naturally wonder whether it's wise to pay much attention to the liberal arts—history, literature, philosophy, and so forth.

If able students are channeled into scientific studies, the humanities and social sciences tend to lose out. Those who feel there's danger in this argue as follows. In the humanities may best be discovered the intellectual, moral and spiritual resources of the human race. For the most effective leadership, for the best success, knowledge of the humanities is a vital element. Courses which seem to have little to do with one's success in industry, business, or government, may, in the long run, prove very important.

What are our views on this problem of specialization vs. broad liberal training?

As for specific training, more and more large industrial concerns are running their own programs for the management and research personnel which they recruit from the colleges and universities.

Graduate professional schools, as their title shows, concern themselves directly with preparation for a profession—but the candidate has to be well qualified to get in.

At the top level, the lack seems likely to remain acute for considerable time. In order to relieve the scarcity and save waste, the National Manpower Council believes that "nothing short of a determined cooperative effort involving government, industry, the educational institutions and professional and other groups" will do. An informed public opinion is needed to understand the crucial role "brain power" plays in the nation's welfare. That includes awareness of the fact that pure science and learning (searching out knowledge for its own sake) lead often to the advances made in applied science (research for some definite purpose, like developing better aircraft engines).

To achieve more efficient manpower use—says the Council—we should:

1. Develop more reliable knowledge about our human resources.
2. Strengthen . . . institutions which educate and train our scientists and professionals.
3. Maintain . . . a continuous, large flow of students through our colleges and universities.
4. Expand . . . opportunities for capable young persons to secure a higher education.

That's a large order. Let's think about and discuss ways and means to fill it.

GUIDANCE

Even the ablest and best-adjusted young person when trying to decide what to do can make mistakes. Wrong choices waste potential abilities and weaken by that much the nation's manpower resources. Obviously anything which will be of help in

ΔThis bill provided education and training for more than 7,800,000 veterans.

picking a vocation should be all to the good. At the same time, the American tradition that the individual shall be free to make his own decisions as to the kind of education he wants, and the career he hopes to follow, needs to be carefully guarded.

By and large, not much *is* being done about guidance, and the average young person gets relatively little usable information. Good guidance programs require money, people, and time.

Various social agencies are doing what they can. Outstanding is the work of the Y.M.C.A.—because of its excellence and because it reaches so many. The Veterans Administration also concerns itself with guidance. So, among others, do different church groups.

Where programs are especially needed is in school—not just for the eleventh and twelfth grades, but when young people are getting ready to enter high school. That's when important choices must be faced. Shall it be the general college preparatory course, or something leading more directly toward a vocation? What *are* the job opportunities ahead? How do I find out what I'm qualified for? What should I do to get ready?

A special reason for guidance in school is because, once teenagers see how important education can be for a successful life, they will be more willing to study and more anxious to do well.

At present many high schools, if they have guidance programs at all, offer only makeshift counseling services. Often the teachers assigned are not prepared to give sound guidance advice. The mistakes they make bear directly on the lives of the students. There's always the risk that, in advising young people to fill serious shortages in a particular type of skill or profession, there'll presently be overproduction of manpower and not enough jobs to go around.

The National Manpower Council recommends that schools, professional societies, governmental agencies, and other interested groups get together to strengthen the information and counseling services in high school and college. The Council suggests that school guidance programs should help:

1. to clarify a student's understanding of his own interests, aptitudes, and vocational goals [Tests now given more and more generally in schools are proving a considerable help in solving these questions—but many educators warn that their findings should only be taken as an indication];
2. to let students know about the range of occupations, not only locally but in other communities. [A difficulty with what guidance data there is lies in the fact that the best deal with national rather than neighborhood situations];
3. to cause students to relate their present schooling to future work and careers;
4. to inform students about opportunities for further education and training.

What are our own views on vocational guidance? What should be done?

PAYING FOR FURTHER EDUCATION AND TRAINING

There's the rub.

Lack of cash or credit accounts in large measure for the following figures and facts:

Many who have the ability to go through college never consider doing so because they don't know about opportunities for financial help. Tuition costs are steadily rising.⊙ That forces plenty of good students to drop out. It has been estimated that these circumstances each year prevent from 100,000 to 150,000 superior high school graduates from going on. There's real danger that young people from the average income bracket will be priced out of college.▲ Let's consider what's involved in all this, and what needs to be done.

Are there other solutions than scholarships? If so, what?

The American Council on Education finds that scholarship aid has been concentrated on the top five percent. Should the base be extended to include the top quarter of students?

Should the level of free education be raised from the twelfth grade to include two years of junior college? College itself?

On education in general, we are spending about two percent of our national income for secondary schools. One percent goes to higher learning. By way of comparison, over four percent is spent for recreation and fun. In recent years, though, there has been a marked rise in the number and value of scholarships and fellowships. They come from the higher institutions themselves; from private sources such as foundations, industry, unions, fraternal and professional organizations, and individuals; from cities and states; from the federal government.

What should our national policy be concerning America's manpower resources?

⊙*Tuition fees cover only a minor part of what it costs most institutions of higher learning to give each student an education. The largest part of the expense must be raised elsewhere.*

▲*A survey by the American Council on Education shows that a substantially higher percentage of high school graduates attend college from the higher income levels than from the middle and lower levels. Here is another figure which the survey turned up: half of the top 25% of high school graduates don't continue to college.*

FOR FURTHER READING

A Policy for Scientific and Professional Manpower, 1953.
A Policy for Skilled Manpower, 1954.
Improving the Work Skills of the Nation, 1955.
All published for the National Manpower Council and sold by the Columbia University Press. Copies of the Council's statement and recommendations, reprinted from its publications, are available on request to the National Manpower Council, Columbia University, New York 27, New York.
The Uneducated, by Eli Ginzberg and Douglas W. Bray. An investigation by the Conservation of Human Resources Research Project. Columbia University Press, 1953.
Manpower in the United States, prepared by the Industrial Relations Research Association, Harper & Brothers, New York, 1954.
America's Resources of Specialized Talent. Report of the Commission on Human Resources and Advanced Training, Harper & Brothers, New York, 1954.

FOR FINANCIAL AID

At your local library, consult the most recent available issue of **Scholarships, Fellowships, and Loans,** by S. Norman Feingold, Bellman Publishing Company, Cambridge, Mass. There's a large and growing number of national scholarship programs. Ask local high school superintendent or principal for further information on how and where to apply. Individual colleges have their own programs, and will send literature on application. Such scholarships are customarily awarded on basis of ability and promise, with amount adjusted to financial need of students and their families.

FOR GUIDANCE

Occupational Outlook Handbook, U.S. Department of Labor, Government Printing Office, Washington 25, D. C. $3.25. Describes 433 occupations, giving summary of prospects for employment in each for next five or ten years, description of nature of work, earnings, training and other qualifications needed.
Education for the Professions, issued in 1955 by Office of Education of U.S. Department of Health, Education and Welfare. Government Printing Office. $1.75. Three hundred and seventeen pages of facts about preparing for and practicing each profession, alphabetically arranged.
Your Life Plans and the Armed Forces. Prepared by Defense Committee of North Central Association of Colleges and Secondary Schools. Designed to aid high school students to plan their further education and careers while fulfilling their military obligations. Available in school and college libraries.

COMING: ***Our Mental Health—are we doing enough to keep it good?***

If there is demand for a guide on womenpower resources, we'll prepare one. Please let us hear from you.